

Claims Amend'd

Claims 1-17 (Canceled).

Claim 18. (New) A method of processing a long record length data acquisition in a test and measurement instrument comprising the steps of:

defining a plurality of gates with respect to the long record length data acquisition, each gate encompassing a portion of the long record length data acquisition and one of the gates being a reference gate;

entering a mathematical comparison expression for comparing contents of a plurality of reference memories, one for each gate, to the reference memory associated with the reference gate;

storing the portions of the long record length data acquisition encompassed by the gates in the reference memories;

executing the mathematical comparison expression between the portions of the long record length data acquisition from the reference memories to determine if a violation exists; and

scanning the long record length data acquisition by incrementing the positions of the gates in tandem and, for each incremental change in position, repeating the storing and executing steps until all of the long record length data acquisition has been processed.

Claim 19. (New) The method as recited in claim 18 wherein the defining step comprises the step of selecting specified ones of the plurality of gates for use.

Claim 20. (New) The method as recited in claims 18 or 19 wherein the long record length data acquisition represents a plurality of waveform signals with at least one gate associated with each of the waveform signals.

Claim 21. (New) The method as recited in claims 18 or 19 wherein the defining step comprises the steps of:

positioning each gate at a predetermined location along the long record

length data acquisition; and

designating a width for the gates, the width of all the gates being equal.

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Claim 22. (New) The method as recited in claim 21 wherein the defining step further comprises the step of selecting a source for each gate.

Claim 23. (New) The method as recited in claim 22 wherein the source comprises data selected from the group consisting of the long record length data acquisition, simulated data and reference data.

Claim 24. (New) The method as recited in claim 21 wherein the positioning step comprises the step of providing a relative offset in position between the gates to provide alignment between the gates.

Claim 25. (New) The method as recited in claim 20 wherein the defining step comprises the steps of:

positioning each gate at a predetermined location of the long record length data acquisition; and

designating a width for the gates, the width of all the gates being equal.

Claim 26. (New) The method as recited in claim 25 wherein the defining step further comprises the step of selecting a source for each gate.

Claim 27. (New) The method as recited in claim 26 wherein the source comprises data selected from the group consisting of the long record length waveform acquisition, simulated data and reference data.

Claim 28. (New) The method as recited in claim 25 wherein the positioning step comprises the step of providing a relative offset in position between the gates.

Claim 29. (New) The method as recited in claim 18 wherein the scanning step is performed automatically.

Claim 30. (New) The method as recited in claim 31 further comprising the steps of:
pausing the scanning step when the violation is indicated by the indicating
step; and
displaying the portions of the long record length data acquisition from the
reference memories.

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